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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/506,702

09/07/2004

Michael J Breslin

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MERCK AND CO., INC  
P O BOX 2000  
RAHWAY, NJ 07065-0907

EXAMINER

HAVLIN, ROBERT H

ART UNIT

PAPER NUMBER

1626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/506,702	<b>Applicant(s)</b> BRESLIN ET AL.	
	<b>Examiner</b> ROBERT HAVLIN	<b>Art Unit</b> 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6 and 10 is/are rejected.
- 7) ☒ Claim(s) 6 and 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

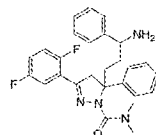
- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

**Status of the claims:** Claims 6 and 8-10 are currently pending.

**Restriction/Election:** Applicant previously elected group I and the following species:

5-(3-amino-3-phenylpropyl)-3-(2,5-difluorophenyl)-N,N-dimethyl-5-phenyl-4,5-dihydro-1H-pyrazole-1-carboxamide



for examination. The scope of examination was expanded beyond the elected species within the scope of claim 6 and art was found rendering the claim obvious.

As detailed in the following rejections, the generic claim encompassing the elected species was not found patentable. Therefore, the provisional election of species is given effect, the examination is restricted to the elected species only, and claims not reading on the elected species are held withdrawn.

Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection through amendment, the amended Markush-type claim will be reexamined to the extent necessary to determine patentability of the Markush-type claim. See MPEP 803.02.

## **RESPONSE TO APPLICANT REMARKS**

### ***Claim Rejections - 35 USC § 103***

1. Claims 6 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Joshi et al. (CAPLUS Abstract of Joshi et al., Journal of the Indian Chemical Society (1984), 61(11-12), 1014-15. Accession # 1986:34035.) in view of Silverman, R.

B. (The Org. Chem. of Drug Design and Drug Action, Academic Press, Inc.: San Diego, 1992, pp. 4-51).

Based on reconsideration of the 132 declaration of Cox, wherein the unexpected result of the 2,5-substitution was described, in combination with applicant's arguments that the Joshi reference would only be relevant to fertility agents, the rejection is **withdrawn**.

### ***Claim Objections***

2. Claims 10 was objected to as being dependent on a rejected base claim. This rejection is **maintained** based on the following rejection.
3. Claims 6, 8-10 were objected to for reading on non-elected subject matter in view of the restriction to the scope of the elected species. This objection is **maintained** because the provisional election of species is in effect.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

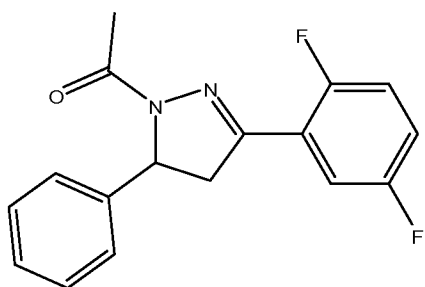
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

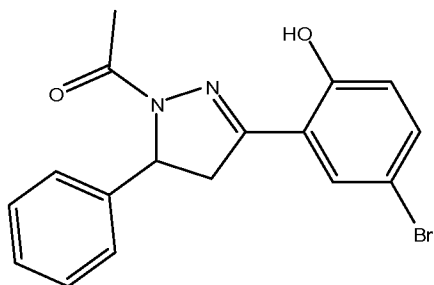
6. Claims 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sangwan et al., *Chimica Acta Turcica* (1983), 11(1), 65-72 in view of Silverman, R. B. (*The Org. Chem. of Drug Design and Drug Action*, Academic Press, Inc.: San Diego, 1992, pp. 4-51).

The instant claims include the following species:



1. *Determining the scope and contents of the prior art.*

Sangwan teaches compounds useful as antimicrobial agents. Sangwan specifically teaches compound 51 in table III on page 68:



Silverman teaches the methodologies routinely employed in the pharmaceutical arts to find structurally related compounds with the same activity as the parent. Silverman teaches how halogens and hydroxyl are interchangeable phenyl ring

substituents to create analogs that are expected to have similar activity (see pages 23-44).

2. *Ascertaining the differences between the prior art and the claims at issue.*

The difference between Sangwan and the claims is the particular phenyl group substituents.

3. *Resolving the level of ordinary skill in the pertinent art.*

One of ordinary skill in the art of pharmaceutical development would be well versed in the teachings of references such as Silverman. One of ordinary skill in the art would consider routine and well within their technical grasp the process of altering the substituents on molecules and screen them for activity on a large scale to improve potency.

4. *Considering objective evidence present in the application indicating obviousness or nonobviousness.*

One of ordinary skill in the art would be motivated to optimize the lead identified by Sangwan and perform the methods of bioisosteric replacement and QSAR. Based on the teachings of Silverman, one of ordinary skill in the art would be motivated to alter the substitution on the phenyl group to produce an analog to that disclosed by Sangwan.

In *Eisai Co. Ltd. v. Dr. Reddy's Laboratories Ltd.*, 87 USPQ2d 1452, 1454 (Fed. Cir. 2008), the Federal Circuit clarified the proof of obviousness in structural similarity situations such as this:

Where, as here, the patent at issue claims a chemical compound, the analysis of the third Graham factor (the differences between the claimed invention and the

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prior art) often turns on the structural similarities and differences between the claimed compound and the prior art compounds. See *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1377 [81 USPQ2d 1324] (Fed. Cir. 2006) (noting that, for a chemical compound, a prima facie case of obviousness requires “structural similarity between claimed and prior art subject matter ... where the prior art gives reason or motivation to make the claimed compositions” (quoting *In re Dillon*, 919 F.2d 688, 692 (Fed. Cir. 1990) (en banc))).

Obviousness based on structural similarity thus can be proved by identification of some motivation that would have led one of ordinary skill in the art to select and then modify a known compound (i.e. a lead compound) in a particular way to achieve the claimed compound. See *Takeda Chem. Indus. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356 [83 USPQ2d 1169] (Fed. Cir. 2007). In keeping with the flexible nature of the obviousness inquiry, *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 [82 USPQ2d 1385] (2007), the requisite motivation can come from any number of sources and need not necessarily be explicit in the art. See *Aventis Pharma Deutschland GmbH v. Lupin, Ltd.*, 499 F.3d 1293, 1301 [84 USPQ2d 1198] (Fed. Cir. 2007). Rather “it is sufficient to show that the claimed and prior art compounds possess a ‘sufficiently close relationship ... to create an expectation,’ in light of the totality of the prior art, that the new compound will have ‘similar properties’ to the old.” *Id.* (quoting *Dillon*, 919 F.2d at 692).

In addition, the prior art compound shows a very close structural relationship to the claimed compound that one of ordinary skill in the art would know conclude they have similar properties based on the knowledge and experience of those of ordinary skill in the art and the teachings of the prior art as a whole.

Therefore, **the claims are rejected.**

### ***Conclusion***

The claims are in not condition for allowance.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HAVLIN whose telephone number is (571)272-9066. The examiner can normally be reached on Mon. - Fri., 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, Joe McKane can be reached at (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Havlin/  
Examiner, Art Unit 1626